

**THE CONSTRUCTION OF ROAD DIVERSION IN SWAMPY AREA AT  
JALAN LENCONGAN KURONG TENGAR, PERLIS**

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*Who always give me supports and help throughout my study..*

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*Who always guide me and give advice in this study..*

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## **ABSTRACT**

There are many road projects being implemented in Malaysia. Since Malaysia is developing fast, new technology are constantly being used either in building or road construction. However, some of the terrain in Peninsular Malaysia differs from each other. One of the challenges faced in road projects are the construction of roads in swampy areas. The engineers will have to use their skills and experience in order to construct the roads in swampy areas. The aim of this study is to assess the road construction method in swampy areas and the problems faced by the contractors in carrying out the construction works. The objectives of the study are to study the methods used for road construction in swampy area, to identify the factors taken into consideration for the construction of road diversion, to identify the problems faced by the contractor in construction of the road diversion in swampy area and to evaluate the factors that influence the duration of the project for construction of road in swampy area. This is a case study and the data are collected through questionnaires and interviews. The data is analyzed using statistical analysis and average index. From the study, the construction of road in swampy areas involves removal and replacement of soil, construction of prefabricated vertical drain and by surcharge. The factors taken into consideration in constructing roads over swampy areas are the safety factor in the design, location of site area and the life span of the method used. The problems faced by the contractor in road construction in swampy areas are soil treatment, weather and high ground water table. The factors that influence the duration of completion of the project are design changes, difficult to estimate time as they are influence by the type of soil problems and unexpected weather.

## ABSTRAK

Terdapat banyak projek pembinaan jalan dilaksanakan di Malaysia. Oleh kerana Malaysia berkembang pantas, teknologi baru sering digunakan samada di dalam pembinaan bangunan ataupun jalan. Walaubagaimanapun, keadaan tanah di sesetengah kawasan di Semenanjung Malaysia berbeza antara satu sama lain. Salah satu cabaran yang di hadapi di dalam projek pembinaan jalan adalah pembinaan di kawasan berpayu. Jurutera perlu menggunakan kemahiran dan pengalaman mereka untuk membina jalan di kawasan berpayu. Tujuan utama kajian ini adalah untuk menilai pembinaan jalan di kawasan berpayu dan masalah yang dihadapi oleh kontraktor dalam menjalankan kerja-kerja pembinaan. Objektif kajian ini adalah untuk mengkaji kaedah yang digunakan untuk membina jalan di kawasan berpayu, mengenal pasti faktor-faktor yang perlu di ambil kira untuk pembinaan jalan lencongan, mengenal pasti masalah yang dihadapi oleh kontraktor untuk pembinaan jalan di kawasan berpayu dan menilai faktor yang mempengaruhi tempoh pembinaan jalan di kawasan berpayu. Kajian ini adalah satu kajian kes projek dan pengumpulan data dilakukan secara temuramah dan menggunakan borang soal selidik. Data yang dikumpul dianalisa menggunakan kaedah indeks purata. Daripada kajian ini, pembinaan jalan di kawasan berpayu melibatkan pemindahan dan penggantian tanah, penggunaan ‘prefabricated vertical drain’ dan kaedah penambakan. Faktor-faktor yang diambil kira untuk pembinaan jalan lencongan adalah faktor keselamatan di dalam rekabentuk, lokasi tapak pembinaan dan jangka hayat kaedah pembinaan yang digunakan. Masalah yang dihadapi oleh kontraktor di dalam pembinaan jalan di kawasan berpayu ialah rawatan tanah, cuaca dan kawasan yang mempunyai aras air bawah tanah yang tinggi. Faktor yang mempengaruhi tempoh siap projek adalah perubahan rekabentuk, sukar menganggar tempoh masa disebabkan oleh masalah jenis tanah dan perubahan cuaca yang tidak diduga.